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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,020	05/31/2001	Yasuhiro Shiraishi	Q64727	7655

7590

05/18/2005

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EXAMINER

ABDULSELAM, ABBAS I

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/857,020

Applicant(s)

YASUHIRO ET AL.

Examiner

Abbas I Abdulsalam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 is/are allowed.
- 6) ☒ Claim(s) 8-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed on 10/28/04 have been fully considered but they are not persuasive.

Applicant argues that the cited references, Suganuma (USPN 5767609) et al. and Suzuki (USPN 4833358) alone or in combination do not teach changing an operation mode to be frequency setting mode if it is determined that a current mode of operation is a monitor mode and also pulses are being produced. Applicant also argues that the references do not teach determining a change in frequency with respect to pulses and modifying the frequency set value for the device based on the change in frequency. However, as shown in the art rejection below, Suzuki teaches frequency determination circuit including an oscillating circuit the output frequency of which is changed according to the output level of the pulse-voltage converting circuit, and wherein the frequency of the periodic signal is determined by the output frequency of the oscillating circuit. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the frequency determination circuit along with pulse voltage converting circuit is a functional equivalence and could be used for determination of a change in frequency with respect to pulses. It would also have been obvious to one of ordinary skill in the art at the time the invention was made that the frequency determination circuit along with pulse voltage converting circuit is a functional equivalence and could be used for the desired modification of the frequency. Suganuma teaches drive state detecting circuit detecting the drive state of the ultrasonic motor, and a drive frequency (or voltage) setting circuit controlling the frequency (or voltage) of a signal for driving the ultrasonic motor so as to attain the maximum

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efficiency in the motor. See the abstract. It would have been obvious to one of ordinary skill in the art at the time the invention was made that Suganuma's drive state detecting circuit along with frequency setting circuit meet the desired frequency setting mode with respect to monitor mode as claimed. In addition one of ordinary skill in the art would have ascertained that it is well known to set up operation modes for different features with any known inputting mechanism such as a keyboard.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suganuma (USPN 5767609) in view of Suzuki et al. (USPN 4833358).

Regarding claims 8, 11 and 13, Suganuma teaches a pulse generator (130), and discloses a drive state detecting circuit detecting the drive state of the ultrasonic motor, as well as a drive frequency (voltage) setting circuit controlling the frequency (or voltage) of signal for driving the ultrasonic motor. See the abstract. Suganuma further teaches that the pulse generator generates pulses in response to the speed of the rotor (100-1), and discloses a drive speed setting circuit (9) with respect to an amplifier (93) which determines and amplifies the difference between the voltage signal from the F/V converter and the reference voltage supply (92). See col. 16, lines 7-

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20. However, Suganuma does not teach determining a change in frequency with respect to the pulses. Suzuki on the other hand teaches frequency determination circuit includes an oscillating circuit, the output frequency of which is changed according to the output level of a pulse voltage converting circuit. See col. 3, lines 17-51 and Fig. 3.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suganuma's driving device for ultrasonic motor to adapt Suzuki's frequency determination circuit along with a pulse voltage converting circuit for the purpose of determining the frequency change. One would have been motivated in view of the suggestion in Suzuki that frequency determination circuit along with a pulse voltage converting circuit equivalently determine a change in frequency with respect to pulses.

Regarding claims 9-10, Suganuma teaches drive voltage setting means (40) to ensure that the output voltage no longer increases or decreases when output voltage VM reaches a predetermined maximum or minimum value. See col. 23, lines 46-50.

Regarding claim 12, Suganuma teaches a drive frequency setting means (20) (Fig. 29) and discloses a pulse generator (130) sending a pulse signal of a frequency depending on speed feedback voltage.

*Allowable Subject Matter*

3. Claims 1-7 are allowed.

*Conclusion*

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abbas I Abdulsalam whose telephone number is (571) 272-7685. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Abbas abdulselem

Examiner

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May 13, 2005

A handwritten signature in black ink, appearing to read 'Xiao Wu', with a stylized, cursive script.

**XIAO WU**  
**PRIMARY EXAMINER**